REMARKS

Claims 1-5 and 24-31 are pending in the present application. By this Amendment, Applicant cancels claim 23 and adds claims 24-31. New claims 24-31 are apparatus and computer program product claims that recite subject matter previously presented in claims 1-5. Applicant amends the Summary of the Invention to more clearly correspond to the claimed embodiments. Reconsideration of the claims is respectfully requested in view of the following remarks.

I. 35 U.S.C. § 112, Alleged Indefiniteness of Claims 1-5

The Office rejects claims 1-5 under 35 U.S.C. § 112, second paragraph, as allegedly failing to particularly point out and distinctly claim the subject matter that Applicants regard as the invention. Applicants respectfully traverse this rejection.

With respect to claim 1, the Office Action states that it is unclear to the Examiner how the non-legacy computer executes an operation on a master version of data stored on a legacy computer, since the body of the claim does not clearly show how the legacy and non-legacy computers communicate. However, it is not the role of the claims to teach one skilled in the art to reproduce the invention, but rather to define the legal metes and bounds of the invention. *In re Rainer*, 305 F.2d 505, 509, 134 U.S.P.Q. 343, 346 (C.C.P.A. 1962). If the metes and bounds of the claimed invention are clearly ascertainable, then the claim cannot be properly rejected as "vague" or "indefinite" under 35 U.S.C. § 112, second paragraph. In this case, the scope of claim 1 is clear, even if the manner of implementation is unclear to the Examiner. Whether the claim leaves unclear the manner in which the feature of a non-legacy computer executing an operation on a master version of data stored on a legacy computer may be implemented is irrelevant where the claim clearly covers all forms of implementation. *In re Warmerdam*, 33 F.3d 1354, 1361, 31 U.S.P.Q.2d 1754, 1759 (Fed. Cir. 1994).

In the Final Office Action, the Examiner states that if the claims fail to show the invention reproduction, the claims would raise a § 112, first paragraph, rejection. Applicants note that the Office does not reject the claims under 35 U.S.C. § 112, first paragraph; therefore, it shall be assumed that the Examiner determined that the claims and

disclosure meet the requirements of 35 U.S.C. § 112, first paragraph. Furthermore, the Final Office Action does not respond to Applicants' remarks with regard to 35 U.S.C. § 112, second paragraph.

Therefore, Applicants respectfully request withdrawal of the rejection of claims 1-5 under 35 U.S.C. § 112, second paragraph.

II.   35 U.S.C. § 103, Alleged Obviousness of Claims 1-5

The Office rejects claims 1-5 under 35 U.S.C. § 103(a) as allegedly being unpatentable over *Gehman et al.* (U.S. Patent No. 7,136,881) in view of *Grimsrud* (U.S. Patent No. 6,546,437). Applicants respectfully traverse this rejection.

Gehman appears to teach a method and system for processing directory events. An event master server 40 records modification messages in a queue 40b. Event master server 40 includes event message provider 40a, which sends the modification messages as event messages to event service server 41, which includes replicate data monitor 41a. Event service server 41 stores sequence numbers for event messages in queue 41b. Replicate data monitor 41a sends event messages to event client server, which includes event notifier 42a and directory client register 42b. In this way, changes to a master directory database may be replicated or synchronized to directory clients. That is, changes at a master directory database are perpetuated down to clients.

In contradistinction, the present invention provides a method of synchronizing data in a distributed data processing system. The method stores a master data in at least one legacy computer system and enables a first non-legacy computer to support synchronization. A second non-legacy computer (e.g., a client) stores a copy of the master data in a second non-legacy computer, executes at least one operation on the copy of the master data, and sends the at least one operation to the first non-legacy computer. The first non-legacy computer executes the at least one operation on the master data at the at least one legacy computer. The method determines whether the first non-legacy computer successfully executed the at least one operation and synchronizes the master data by applying the at least one operation in response to the first non-legacy computer successfully executed the at least one operation.

Gehman does not teach or suggest executing at least one operation on a copy of the master data in a second non-legacy computer. Rather, *Gehman* teaches perpetuating changes **from** the master directory database **to** the clients, not the other way around. Therefore, it follows that *Gehman* also fails to teach sending, by the second non-legacy computer, the at least one operation to the first non-legacy computer and executing, by the first non-legacy computer, the at least one operation on the master data at the at least one legacy computer, because *Gehman* teaches an event service server that perpetuates changes from the master directory database to clients and fails to teach a non-legacy computer that receives changes made at the client and executes those changes on a legacy computer.

In response to the above argument, the Office Action states that *Gehman* teaches manipulating data within master directory database and replicating the manipulated data within master directory event system to a client corresponding to the copy of master data to a non-legacy computer at col. 3, lines 40-55. Applicant notes that this portion of *Gehman* reinforces Applicant's argument, because *Gehman* clearly teaches that only the master data is manipulated at the legacy computer, that manipulations made at the legacy computer are replicated to the client computer, and that no manipulations are made on the replicated data at the client computer. Therefore, not only does *Gehman* not teach executing at least one operation on a copy of the master data in a second non-legacy computer, but there is no need to synchronize such manipulations back up to the legacy computer.

Furthermore, *Gehman* does not teach or suggest a determination of whether the first non-legacy computer successfully executed the at least one operation. The Final Office Action alleges that *Gehman* teaches such a determination because *Gehman* teaches an option of "yes" in step S96 in FIG. 3B, which is reproduced as follows:
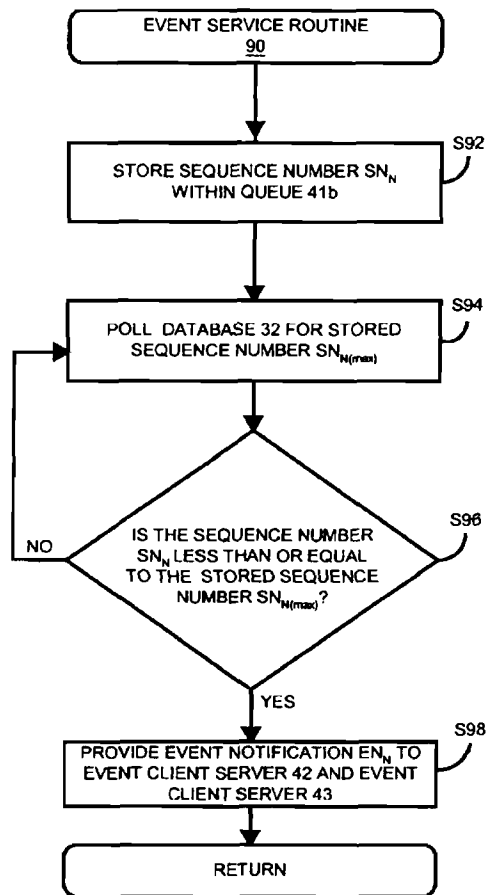
FIG. 3B

As seen in FIG. 3B of *Gehman*, step S96 determines whether a sequence number is less than or equal to the stored sequence number. This determination decides whether to send an event notification to an event client server. *Gehman* states:

> Referring additionally to FIG. 3B, during stage S92 of routine 90, replicate data monitor 41a stores sequence number SN_N within queue 41b. Replicate data monitor 41a proceeds to stage S94 of routine 90 to poll replicate directory database 32 for a sequence number SN_{MAX} stored therein. Those of ordinary skill in the art will appreciate there can be a significant gap of time from a completion of the writing of sequence number SN_N to master directory database 31 by event message provider 40a and a subsequent completion of the replication of all of the data within master directory database 31, including the manipulated data and sequence number SN_N, to replicate directory database 32. As such, those of ordinary skill in the art will further appreciate that sequence number SN_N

being greater than sequence number SN_{MAX} is an indication that the replication of all of the data within master directory database 31, including the manipulated data and sequence number SN_N, has not occurred. Conversely, those of ordinary skill in the art will further appreciate that sequence number SN_N being less than or equal to sequence number SN_{MAX} is an indication that the replication of all of the data within master directory database 31, including the manipulated data and sequence number SN_N, has occurred.

Thus, during stage S96 of routine 90, replicate data monitor 41a compares sequence number SN_N and sequence number SN_{MAX} (to determine if sequence number SN_N is less than or equal to sequence number SN_{MAX}. If sequence number SN_N is greater than sequence number SN_{MAX}, replicate data monitor 41a loops back to stage S94. If sequence number SN_N is less than or equal to sequence number SN_{MAX}, replicate data monitor 41a proceeds to stage S98 to provide event notification EN_N (or an edited version thereof) to event client server 42 and event client server 43.

Gehman, col. 4, line 39, to col. 5, line 3. Therefore, *Gehman* teaches a determination concerning the sequence of event notifications, but does not teach a determination of whether a first non-legacy computer successfully executes at least one operation on a legacy computer, wherein the at least one operation is received from a second non-legacy computer.

In response to the above argument, the Office Action states that *Gehman* teaches such a determination in a "YES" and "NO" in step S82 of FIG. 3A, which is as follows:
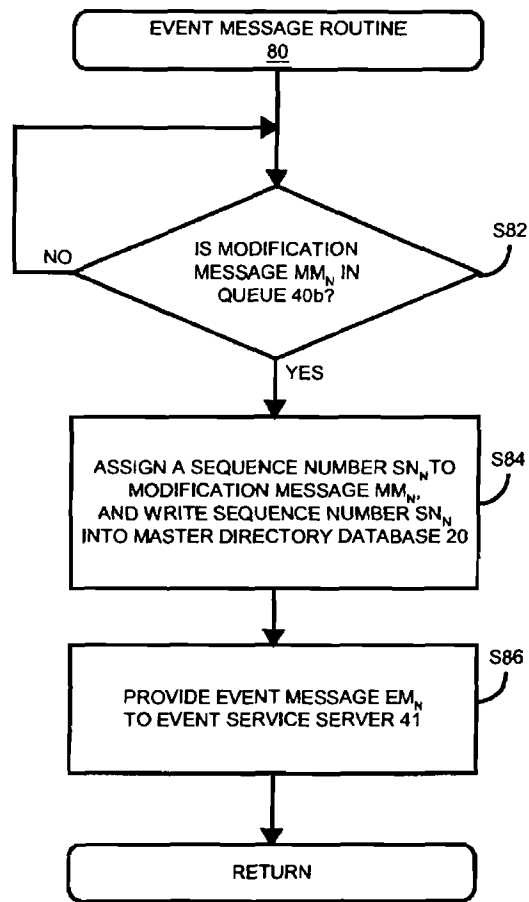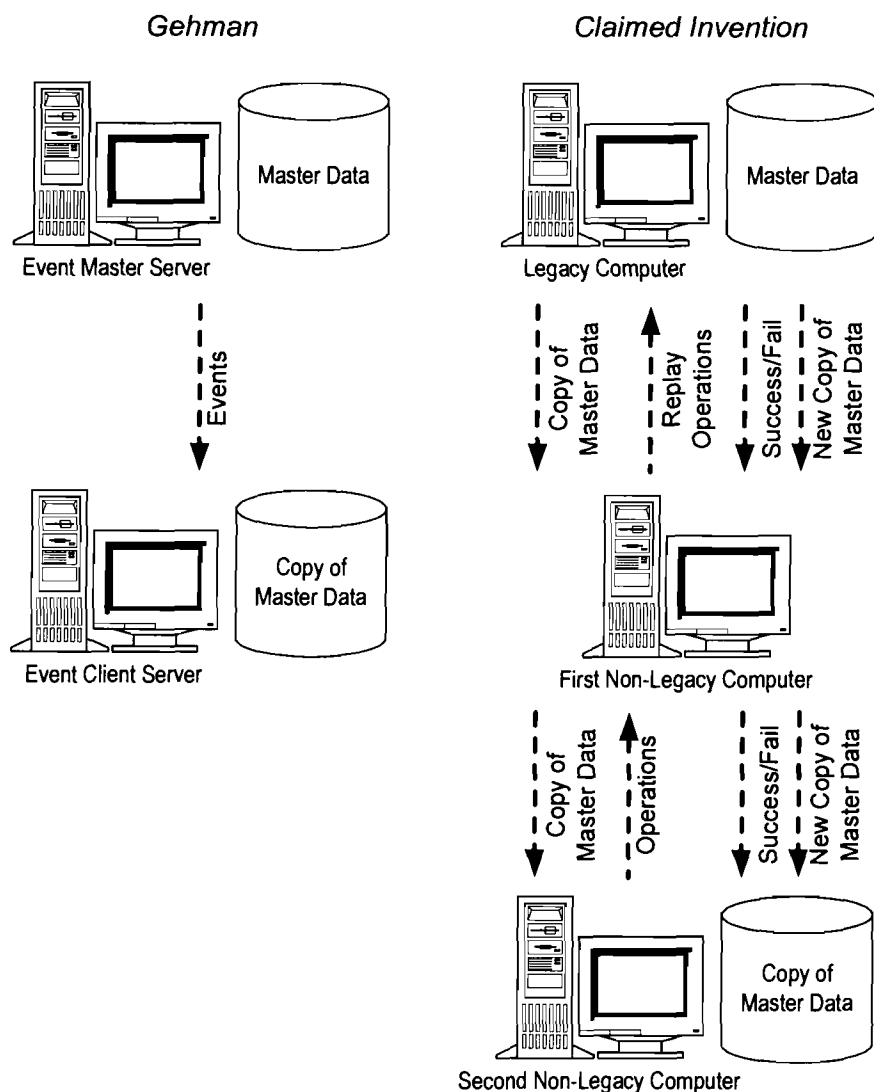
FIG. 3A

Clearly, in step S82, *Gehman* teaches a determination as to whether a modification message exists in a queue to be applied to the master data at the legacy computer. *Gehman* does not teach that such a modification message corresponds to execution of operation on a **copy** of master data at a non-legacy computer. Furthermore, the Office Action proffers no technical analysis or explanation as to why existence of a modification message in a queue is somehow equivalent to a determination of whether at least one operation received from a non-legacy computer that was executed on a copy of master data was successfully replayed on master data at a legacy computer.

As shown in FIG. 2 of *Gehman*, changes at the event master server are perpetuated to the event client server using event messages. The distinctions between *Gehman* and the presently claimed invention are illustrated as follows:

Gehman | Claimed Invention

Event Master Server — Master Data

Events

Event Client Server — Copy of Master Data

Legacy Computer — Master Data

Copy of Master Data / Replay Operations / Success/Fail / New Copy of Master Data

First Non-Legacy Computer

Copy of Master Data / Operations / Success/Fail / New Copy of Master Data

Second Non-Legacy Computer — Copy of Master Data

According to claims 1-5, the method of synchronization provides a way for the second non-legacy computer to perform operations on a local copy of the master data and **also** to have those operations replayed by a first non-legacy computer. While *Gehman* may be similar in that changes to master data are perpetuated to other computers, *Gehman* does not teach the **specific combination of features** recited in claims 1-5.

Still further, the Final Office Action acknowledges that *Gehman* does not teach that one computer is a legacy computer and other computers are non-legacy computers. The Final Office Action alleges that *Grimsrud* generally teaches both legacy and non-legacy computers and concludes that it would have been obvious to a person of ordinary skill in the art to incorporate legacy and non-legacy computers in *Gehman*. Applicants respectfully disagree.

Grimsrud teaches communication between a computer and a peripheral with a legacy failure control mechanism. *Grimsrud* teaches a computer 174 connected to a peripheral 176 via an advanced technology attachment (ATA) interface 178. The computer 174 may send a request for information to the peripheral, and the peripheral may send a reply to the computer that causes the computer to not use the peripheral. See *Grimsrud*, col. 1, lines 30-56. The computer and peripheral can be any combination of legacy and non-legacy in various embodiments of *Grimsrud*.

However, *Grimsrud* does not teach a person of ordinary skill in the art to modify *Gehman* to include legacy and non-legacy computers. There is no problem in *Gehman* for which *Grimsrud* is a solution. The Final Office Action proposes that a person of ordinary skill in the art would have been motivated to combine the teachings of *Gehman* and *Grimsrud* "in order to the method of detecting any changes or any hardware connected to the system." While this may be a problem solved in *Grimsrud*, this motivation does not apply to *Gehman* in any significant way. Furthermore, even given this motivation, the teachings of *Grimsrud* would not lead a person of ordinary skill in the art to modify the teachings of *Gehman* in such a way that would result in the presently claimed invention, because neither reference teaches or suggests storing a copy of master data in a second non-legacy computer, executing at least one operation on the copy of the master data, sending the at least one operation to a first non-legacy computer, executing the at least one operation on the master data at the at least one legacy computer, determining whether the first non-legacy computer successfully executed the at least one operation, and synchronizing the master data by applying the at least one operation in response to the first non-legacy computer successfully executed the at least one operation, as recited in claim 1, for example. Rather, a combination of *Gehman* and *Grimsrud* would result in a system for perpetuating changes to master data from an event master server to event client servers where one of the servers may have a peripheral with a legacy failure control mechanism.

The applied references, taken individually or in combination, fail to teach or suggest each and every claim feature. Therefore, *Gehman* and *Grimsrud* do not render claim 1 obvious. Because claims 2-5 depend from claim 1, the same distinctions between

Gehman and *Grimsrud* and claim 1 apply for these claims. In addition, claims 2-5 recite additional combinations of features not taught or suggested by the prior art.

Therefore, Applicants respectfully request withdrawal of the rejection of claims 1-5 under 35 U.S.C. § 103(a).

III. Conclusion

It is respectfully urged that the subject application is now in condition for allowance. The Examiner is invited to call the undersigned at the below-listed telephone number if in the opinion of the Examiner such a telephone conference would expedite or aid the prosecution and examination of this application.

Respectfully submitted,

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Stephen R. Tkacs
Reg. No. 46,430
WALDER INTELLECTUAL PROPERTY LAW, P.C.
17330 Preston Road, Suite 100B
Dallas, TX 75252
(972) 380-9475
AGENT FOR APPLICANTS